

Catalogue of American Amphibians and Reptiles.

Rhodin, A. G. J., R. A. Mittermeier, and J. R. Buskirk 1988. *Phrynops williamsii*.

***Phrynops williamsii* Rhodin and Mittermeier
Williams' South American Side-necked Turtle**

Platemys geoffreyana: Hensel, 1868: 354.

Hydraspis geoffroyana: Boulenger, 1889: 223.

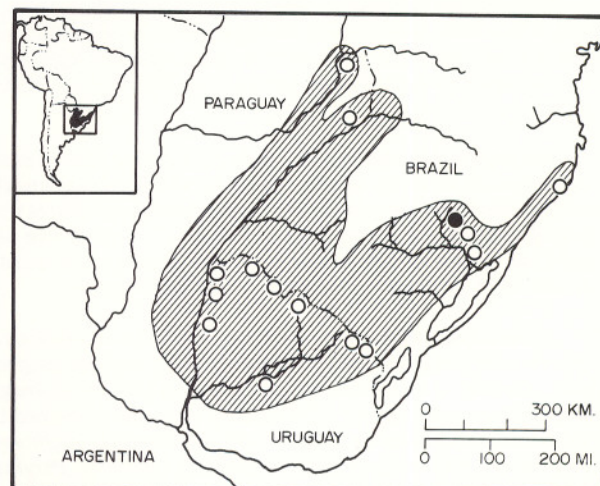
Phrynops geoffroana geoffroana: Vaz-Ferreira and Sierra de Soriano, 1960: 14.

Phrynops geoffroanus: Freiberg, 1970: 190.

Phrynops williamsii Rhodin and Mittermeier, 1983: 59. Type-locality, "Rio Cadea, Rio Grande do Sul, Brazil". Holotype, Mus. Comp. Zool. Harvard 64135, an adult female, collected by H. von Ihering, ca. 1883, (examined by authors).

• **Content.** No subspecies are recognized.

• **Definition.** Adult females grow to about 354 mm carapace length; adult males are smaller, the largest identifiable male is 201 mm. Males have a thicker, longer tail with more distally-located vent. The carapace is broadly oval, almost subcircular in juveniles, its length averaging 1.15 times its width, becoming relatively narrower with increasing size. The carapace length averages 1.33 times its width in subadults and smaller adults, 1.46 in larger adults. The marginal rim is mildly serrate in juveniles, partially retained posteriorly but less distinct in subadults and adults. There is a small supracaudal notch. The cervical is approximately twice as long as broad, projecting slightly anterior to the carapace margin. The vertebral scutes are generally wider than long, without furrow, trough, keel, or knobs in subadults and adults. There is a very vague, low midline bulge posteriorly on V5, extending toward the supracaudal notch, causing very mild keeling at the posterior end of the



Map. Solid circle marks type-locality, open circles indicate other localities. Shaded area indicates probable range.

shell, more prominent in large adults than subadults. Juveniles have low inconspicuous vertebral bulges on V1-5 and pleurals.

The carapace is brown with black reticulations and thin yellowish-orange carapacial edge. Extensive thin black reticulations radiate in a well-delineated pattern on all vertebrals, pleurals and marginals. The center of the radiating pattern is located at the site of the original hatchling scute: posteriorly in midline on vertebrals, posteromedially on pleurals, and posterolaterally on marginals. The pattern is as distinct in large adults as in juveniles. Black lines are generally of the same width or narrower than the interspersed brown base color. Color demarcation is sharp and clear, creating a striking pattern extending fully to the edge of marginal rim.

The plastron is broad, its length averaging 1.82 times width; carapace width averaging 1.60 times the plastron width; is anteriorly truncate and slightly narrower posteriorly. The anal notch is moderately deep. Very small axillary and inguinal scutes are present. The intergular is short and broad. The plastron is gray to dirty white or pale yellow, occasionally oxidized to darker brown. It is immaculate on all ventral surfaces in large juveniles and adults, though occasional large specimens have an indistinct dorsal type color pattern on the posterior ventral marginals.

The head is moderately narrow, becoming allometrically narrower with increased carapace length. The head and neck have a distinctive color pattern, primarily dark dorsally and light ventrally, characterized by three subparallel broad black bands. The uppermost band serves as the ventral border of the dark dorsal head and neck pattern, extending from the nostrils through the eye, through the upper one third to one half of the tympanum, and then along the mid-lateral surface of the neck, gradually fading caudally. The lowermost band forms a posteriorly directed horseshoe-shaped figure on the ventral chin, extending anteriorly to the base of the barbels, usually sharply discontinuous posteriorly, with an interruption at the level of the posterior border of the tympanum, before continuing for a short distance as short subparallel bands or elongate spots. The intermediate band extends caudally from the angle of the jaws, serving as a continuation of thin bands of dark pigment on the external tomial surfaces of the horny rhamphotheca. The band then continues along the inferior border of the tympanum and ventrolaterally along the neck, ending abruptly at approximately the same level as the last band or spot in the lowermost band. These three broad bands are usually totally separate from one another, though occasional specimens have very thin interconnecting bands. The dorsal head pattern is somewhat indistinct, composed of a blackish background with narrow indistinct whitish lines subparallel to the uppermost dark band. The ventral surface of the chin and neck are

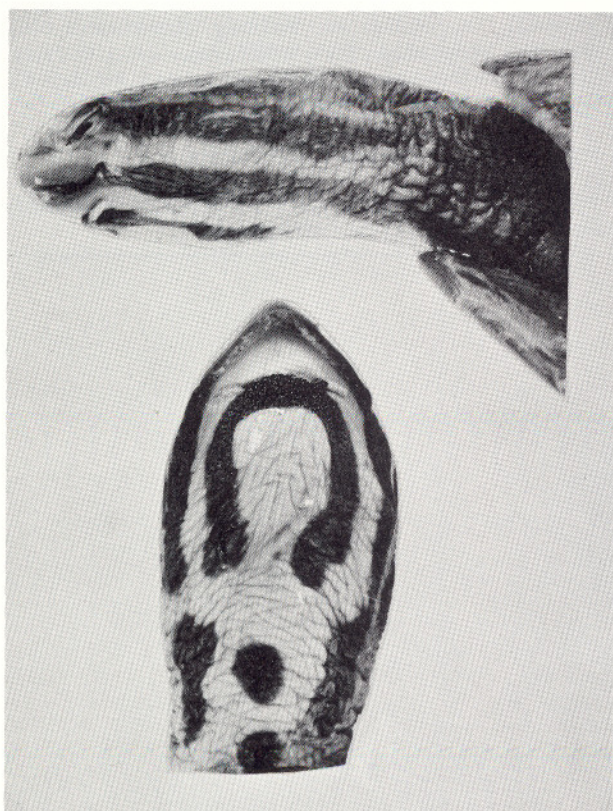


Figure. Lateral and ventral view of head and neck of holotype of *Phrynops williamsii*.

reddish-yellow or yellow with black bands.

In hatchlings the carapace length is ca. 35 mm. The plastron is gray with a dark median figure, the carapace is brown, each scute with a large central dark blotch with irregular dark radiating specks. The head pattern is as the adult, with narrow pale orange or reddish stripes.

The skull is characterized by a wide parietal roof, lack of exoccipital contact above the foramen magnum, widely divergent trochlear processes, and robust anterior maxillary triturating surfaces with lingual ridges and a shovel-shaped mandible. Cervicals five and eight are biconvex. The neural series is well-developed, usually consisting of six neurals, contacting the nuchal anteriorly.

• **Descriptions.** Accurate and recognizable descriptions of this species were first published by Hensel (1868) as *Platemys geoffreyana* Duméril and Bibron, by Boulenger (1889) as *Hydraspis geoffroyana* (Schweigger). Descriptions were also published by Vaz-Ferreira and Sierra de Soriano (1960) as *Phrynops geoffroana geoffroana* (Schweigger), and by Freiberg (1970) as *Phrynops geoffroanus* (Schweigger).

• **Illustrations.** Rhodin and Mittermeier (1983) provided photographs of an adult carapace, a ventral view of a large female, and close-ups of head markings, as well as drawings and photographs of the skull, mandible, and neural bone pattern. Vaz-Ferreira and Sierra de Soriano (1960) provided drawings of the dorsal and ventral views of a small male (as *Phrynops geoffroana geoffroana*). Freiberg (1970) provided photographs of the dorsal and ventral views of a large female (as *Phrynops geoffroanus*).

• **Distribution.** *Phrynops williamsi* occurs in low-lying areas (below 500 m elevation) of eastern coastal Santa Catarina and eastern Rio Grande do Sul in Brazil, northern half of Uruguay, and Misiones in Argentina; probably also including western Santa Catarina and Rio Grande do Sul in Brazil, as well as eastern Corrientes and Entre Ríos in Argentina, and southeastern Paraguay. It is usually found in rapidly flowing streams with rocky substrate.

• **Fossil Record.** None.

• **Pertinent Literature.** Rhodin and Mittermeier (1983) discussed the taxonomy, morphology, osteology, reproduction, distribution, habitat, and comparisons to other species of *Phrynops*. Notes on the habitat are in Hensel (1868) and Vaz-Ferreira and Sierra de Soriano (1960); ecology, behavior in the wild, and reproduction, are in Buskirk (in prep).

• **Etymology.** The name *williamsi* honors Ernest E. Williams, former Curator of Herpetology at the Museum of Comparative Zoology, Harvard University.

• **Comment.** *Phrynops williamsi* is a member of the large and diverse *Phrynops geoffroanus* complex, fully sympatric with and quite distinct from *Phrynops bilarii*. It is superficially similar to *Phrynops geoffroanus*, with which it is largely allopatric, though partial sympatry appears to occur in Misiones, Argentina. There is no indication at present that intergradation occurs between the taxa in the Misiones area, and the striking differences between the skulls of *williamsi* and *geoffroanus* support separate specific status for these taxa.

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Primary editor for this account, Carl H. Ernst.

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